

## Georgia Attorney General Contest, 2018

Official results:

CHRIS CARR (I) (REP) 51.30% 1,981,563

CHARLIE BAILEY (DEM) 48.70% 1,880,807

margin: 2.6%

ballots cast: 3,949,905

votes cast in Fulton County: 415,524

voting method	detection rate <sup>1</sup>	hack rate <sup>2</sup>	do-over rate <sup>3</sup>	Fulton share <sup>4</sup>
all BMD	6.6%	0.014	<0.001	374
	20%	0.016	0.003	1325
	76%	0.053	0.040	16,782
50% BMD	6.6%	0.027	0.002	374
	20%	0.032	0.006	1325
	76%	0.106	0.081	16,782
5% BMD	6.6%	0.273	0.018	374
	20%	0.319	0.064	1325
	76%	1	0.808	16,782

smaller margin → smaller rates

smaller contest → smaller rates

more undervotes → smaller rates

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for b in [1, 2, 20]:
    cc = 1981563
    cb = 1880807
    bb = 3949905
    fv = 415524

    M = ((cc-cb)/2)/(bb/b)
    for r in [.066, .2, .76]:
        N = M/(1-r)
        print(b, r, N, N*r, N*r*fv/b)

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<sup>1</sup>Rate at which voters who use BMDs notice printout errors and request a new chance to mark a ballot.

<sup>2</sup>Error rate in BMD printouts sufficient to change the reported winner.

<sup>3</sup>Among voters who use BMDs, the fraction who request a fresh chance to mark a ballot.

<sup>4</sup>If the errors were spread evenly across counties, the number of do-over requests in Fulton County.